EMILY ZENG

University of Waterloo | Mechatronics Engineering
2016-2021

✉ *zhixuan.zeng@gmail.com*
⌂ *github.com/ezhxzeng*
✆ *(226)-792-7910*
🌐 *ezhxzeng.github.io/web_portfolio*

Skills Summary

Python	Machine learning	Reinforcement Learning
C++	Keras/Tensorflow	Natural Language Processing

Experience

Robotics Software Developer (AI) – Engineering Service Inc.   Sep-Dec 2017

Solved robotic navigation problem using deep reinforcement learning (Q-learning)
- Used Keras with Tensorflow backend to create 4-layer artificial neural net
- Successfully navigated robot to target on both simulation and physical robot using an embedded chip
- Worked independently to develop model from scratch

Machine Learning/Data Science – Stackup/NUS   Jan-April 2017

Assisted in developing Machine Learning Driven Data Science course
- Developed a facial recognition program using support vector machines
- Created MEAN stack E-commerce website for use in case studies

Projects

Quiz it! – Runner up at YHacks   Dec 2017

- Won best use of Google API and best Education Hack at YHacks 2017, and was runner up to first place
- Translates photos of text into fill in the blank questions to be answered using Quizlet or Amazon Echo
    - Tokenized words, and gathered entities using Google NLP API
    - Pronouns dereferenced through assuming subject, verb, action structure of English language
    - Extracted sentences referring to definitions, events, etc.
    - Removed entity of greatest salience to set as answer

Noter – Hack Harvard   Nov 2017

- Processes videos of lectures to convert into study-able notes
- Video analysis segments lecture based on detecting new figures or notes the professor writes
- Audio analysis converts each segment into text referring to above figure
- Entity analysis provides highlighting of keywords, as well as external information from Wikipedia

Troll Index – Hack Harassment winner at EngHack   May 2017

- Won Hack Harassment award at Waterloo's EngHack
- Internet troll identifier for reddit using python's natural language processing library (NLTK)
- Used Vader package for sentiment analysis for its inclusion of social media slang such as emojis and acronyms